

1. Remarks/Discussion of Issues

Claim Summary

By the present Reply, claim 1 has been revised to correct a minor informality. Claims 1-15 and 22-28 are pending in the application. Applicants respectfully submit that all pending claims are in condition for allowance.

Drawings

Applicants would like to express their appreciation to the Examiner for withdrawing the objection to Fig. 2D, and for indicating acceptance of the drawings. *See* Office Action, p. 2.

35 U.S.C. §102 Rejection

The Office Action of January 23, 2009, rejects claims 1-6, 8-13, 22-24, 26 and 27 under 35 U.S.C. § 102(e) as being anticipated by TAI et al. (U.S. Patent No. 6,656,611). Applicants respectfully traverse the rejection because TAI et al. does not disclose each and every element of these claims.

Applicants rely at least on the following standards with regard to proper rejections under 35 U.S.C. § 102. Notably, anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. *See, e.g., In re Paulsen*, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990); *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983). Alternatively, anticipation requires that each and every element of the claimed invention be embodied in a single prior art device or practice. *See, e.g., Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992). For anticipation, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *See, e.g., Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991).

Applicants' silence on certain aspects of the rejection is by no means a concession as to their propriety. Rather, because the applied art fails to disclose at least one feature of the claims,

for at least the reasons discussed below, Applicants respectfully submit that the rejections are improper and should be withdrawn.

Claim 1

Independent claim 1 recites as follows:

*An electrical device comprising:
a substrate carrying at least one component comprising at least one electrode; and
a first connecting line electrically connected to said electrode, said first connecting line bridging a second connecting line by a crossover,
wherein at least a portion of a perimeter of the crossover is bounded by an electrically insulating structure, insulating the crossover from at least one other crossover.*

The Office Action asserts that “at least one electrode” is disclosed by second electrode strips 314, “first connecting line” is disclosed by electrode leads 205/305, “second connecting line” is disclosed by first electrode strips 304, and “crossover” is disclosed by insulating strips 310. *See* Office Action, p. 2 (citing FIGs. 2C, 3A-3D, 4A; col. 7, lines 1-20; col. 8, lines 9-46, of TAI et al.).

However, claim 1 recites that the first connecting line bridges the second connection line by a crossover. Referring to FIGs. 2A, 2B and 3A of TAI et al., it is clear that the electrode leads 205/305 (assertedly the first connecting line) end short of the first electrode strips 304 (assertedly the second connecting line), and therefore do not bridge the first electrode strips 304. Also, the second electrode strips 314 (assertedly the at least one electrode), to which the electrode leads 205/305 apparently connect, also do not bridge the first electrode strips 304. Rather, the second electrode strips 314 electrically connect to the first electrode strips 304 via organic layers 110, 112 (*see* FIG. 1) or organic layers 410, 412 (*see* FIG. 4B) as

cathode and anode, respectively. See TAI et al., col. 4, lines 24-26.

Further, the insulating strip 310 (assertedly the crossover) does not include at least a portion of its perimeter bounded by an electrically insulating structure, insulating the crossover from at least one other crossover. The Office Action asserts that insulating bank structure 306 of TAI et al. bounds at least a portion of the perimeter of the insulating strip 310. However, the insulating strip 310 and the insulating bank structure 306 are both electrically insulating, and it therefore makes no sense to say that one insulating structure (i.e., a first insulating strip 310) is insulated from another insulating structure (i.e., a second insulating strip 310) by yet another insulating structure (i.e., insulating bank structure 306). Regardless, the insulating bank structure 306 of TAI et al. would not “insulate” the insulating strip 310 from another the insulating strip 310. Rather, as clearly shown in FIGs. 3B and 4A, the insulating bank structure 306 is below the insulating strip 310, and thus at most would “insulate” the insulating strip 310 from the first electrode strips 304 (assertedly the second connecting line), not the other insulating strips 310. Therefore, the insulating bank structure 306 does not disclose insulating the crossover from at least one other crossover, as recited in claim 1.

Accordingly, for at least the reasons stated above, Applicants respectfully submit that claim 1 is allowable over TAI et al., and request withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(e).

Claims 2-6, 8, 22 and 23

With regard to claims 2-6, 8, 22 and 23, Applicants assert that they are allowable at least because they depend, directly or indirectly, from independent claim 1, which Applicants submit has been shown to be allowable over TAI et al., as well as in view of their additional recitations.

Claim 9

Independent claim 9 recites as follows:

A method for manufacturing an electrical device comprising a crossover of at least a first connecting line over at least a second connecting line, at least one of said connecting lines connecting to an electrical device, the method comprising:

forming said first connecting line and said second connecting line on a substrate;

depositing an insulating layer on said first connecting line and said second connecting line, at least in an area where said crossover is to be formed;

creating an opening in said insulating layer in a position where an electrical contact is to be provided between said first connecting line and a connection point;

forming an electrically insulating structure peripherally surrounding at least a portion of the area where said crossover is to be formed; and

depositing an electrically conductive layer on the insulating layer to connect said first connecting line to said connecting point, which connecting point may be connected to another second connecting line.

The Office Action asserts that forming the “first connecting line” and the “second connecting line” are respectively disclosed by first electrode strips 204 and electrode leads 205, depositing an insulating layer on the first and second connecting lines is disclosed by insulating bank structure 106, creating an opening in the insulating layer is disclosed by aperture 108, forming an electrically insulating structure peripherally surrounding at least a portion of an area where a crossover is to be formed is disclosed by insulating strips 310, and depositing an electrically conductive layer on the insulating layer to connect the first connecting line to the connecting point is disclosed by second electrode strip 214. See Office Action, pp. 3-4 (citing FIGs. 2C, 3A-3D, 4A; col. 4, line 63 – col. 5, line 57; col. 8, lines 9-46, of

TAI et al.).

However, claim 9 recites a crossover of at least the first connecting line over at least the second connecting line. Referring to FIGs. 2A and 2B of TAI et al., it is clear that the electrode leads 205 (assertedly the second connecting lines) end short of the first electrode strips 204 (assertedly the first connecting lines), and therefore there is no crossover.

Claim 9 also recites depositing an insulating layer on the first connecting line and the second connecting line, at least in an area where the crossover is to be formed. As stated above, there is no crossover of the electrode leads 205 and the first electrode strips 204, so an insulating layer cannot be deposited on such crossover. Further, the insulating bank structure 106 (assertedly the deposited insulating layer) is deposited only on the first electrode strips 204, and not the electrode leads 205 (and/or the second electrode strips 214), as shown in FIGs 2B and 2C.

Claim 9 further recites depositing an electrically conductive layer on the insulating layer to connect the first connecting line to the connecting point. However, the second electrode strip 214 (assertedly the electrically conductive layer) does not connect the first electrode strips 204 (assertedly the first connecting lines) to a connecting point. First, the Office Action does not identify a connecting point in TAI et al., so it is unclear to what the first electrode strips 204 are allegedly being connected. Second, assuming for purposes of discussion that organic layers 110, 112 (see FIG. 1) or organic layers 410, 412 (see FIG. 4B) are connection points, the first electrode strips 204 are already connected to the connection points, i.e., before the second electrode strips 214 are formed.

Accordingly, for at least the reasons stated above, Applicants respectfully submit that claim 1 is allowable over TAI et al., and request withdrawal of the rejection of claim 9 under 35 U.S.C. § 102(e).

Claims 10-13 and 24

With regard to claims 10-13 and 24, Applicants assert that they are allowable at least because they depend, directly or indirectly, from independent claim 9, which Applicants

submit has been shown to be allowable over TAI et al., as well as in view of their additional recitations.

Claim 26

Independent claim 26 recites as follows:

*An electrical device comprising:
a plurality of electrodes on a substrate, the plurality of electrodes corresponding to a plurality of components;
a plurality of first connecting lines electrically connected to the plurality of electrodes;
a plurality of second connecting lines, each of the plurality of first connecting lines being electrically connected to one of the plurality of second connecting lines; and
an insulating layer covering at least a portion of each of the plurality of first connecting lines and the plurality of second connecting lines,
wherein at least one first connecting line of the plurality of first connecting lines connects with one second line of the plurality of second connecting lines through an opening in the insulating layer by bridging at least one other second connecting line of the plurality of second connecting lines at a crossover, the crossover being insulated from the at least one other second connecting line by the insulating layer and from at least one other first connecting line by an insulating structure surrounding the crossover and the opening.*

The Office Action asserts that “electrodes” are disclosed by second electrode strips 314, “first connecting lines” are disclosed by electrode leads 305, “second connecting lines” are disclosed by first electrode strips 304, and “crossover” is

disclosed by insulating strips 310. *See* Office Action, pp. 5-6. The Office Action also asserts that at least one electrode lead 305 (assertedly the first connecting line) connects with one first electrode strip 304 (assertedly the second connecting line) through an opening 308 in the insulating layer by bridging at least one other first electrode strip 304 at an insulating strip 310 (assertedly a “crossover”). *Id.* The Office Action provides no explanation as to the nature or location of the bridging.

As discussed above with respect to claim 1, referring to FIGs. 2A, 2B and 3A of TAI et al., it is clear that the electrode leads 305 (assertedly the first connecting line) end short of the first electrode strips 304 (assertedly the second connecting line), and therefore an electrode lead 305 cannot bridge at least one other first electrode strip 304.

Also, the second electrode strips 314 (assertedly the at least one electrode), to which the electrode leads 305 apparently connect, do not bridge the first electrode strips 304. Rather, the second electrode strips 314 electrically connect to the first electrode strips 304 via organic layers 110, 112 (*see* FIG. 1) or organic layers 410, 412 (*see* FIG. 4B) as cathode and anode, respectively. TAI et al., col. 4, lines 24-26.

Accordingly, for at least the reasons stated above, Applicants respectfully submit that claim 1 is allowable over TAI et al., and request withdrawal of the rejection of claim 26 under 35 U.S.C. § 102(e).

Claim 27

With regard to claim 27, Applicants assert that it is allowable at least because it depends from independent claim 26, which Applicants submit has been shown to be allowable over TAI et al., as well as in view of its additional recitations.

35 U.S.C. § 103 Rejections

The Office Action of January 23, 2009, rejects claim 25 under 35 U.S.C. § 103(a) as being unpatentable over TAI et al., claims 7, 14 and 15 under 35 U.S.C. § 103(a) as being unpatentable over TAI et al. in view of KOMIYA et al. (U.S. Patent No. 6,940,214), and claim 28 under 35

U.S.C. § 103(a) as being unpatentable over TAI et al. in view of ISHIZUKA (U.S. Patent No. 6,798,145). Applicants respectfully traverse the rejections because no proper combinations of the applied references teach or suggest every feature of these claims.

Claim 25

Claim 25 depends from independent claim 9, and is therefore allowable for at least the reasons discussed with respect to claim 9, as well as in view of its additional recitations. Accordingly, the rejection of claim 258 under 35 U.S.C. § 103(a) should be withdrawn.

Claims 7, 14 and 15

Claims 7, 14 and 15 depend, directly or indirectly, from independent claims 1 and 9, respectively, and are therefore allowable for at least the reasons discussed with respect to claims 1 and 9, as well as in view of their additional recitations. Further, Applicants submit that KOMIYA et al. does not cure the deficiencies of TAI et al., discussed above. Accordingly, the rejection of claims 7, 14 and 15 under 35 U.S.C. § 103(a) should be withdrawn.

Claim 28

Claim 28 depends indirectly from independent claim 26, and is therefore allowable for at least the reasons discussed with respect to claim 26, as well as in view of its additional recitations. Further, Applicants submit that ISHIZUKA does not cure the deficiencies of TAI et al., discussed above. Accordingly, the rejection of claim 28 under 35 U.S.C. § 103(a) should be withdrawn.

CONCLUSION

No other issues remaining, reconsideration and favorable action upon the claims 1-15 and 22-28 now pending in the application are requested.

If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted on behalf of:
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